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ABSTRACT

The relationship between locus of control and academic achievement was studied for 42 adolescent black males identified as at-risk by their teachers. The Nowicki-Strickland Locus of Control scale (NS-LOC) for children was used as a measure of locus of control. School grade average and the Stanford Achievement Test (SFAT) battery composite provided broad measures of overall academic achievement. Specific content areas were assessed with school grades and SFAT scores. These at-risk students scored 0.5 to 0.8 standard deviations below their school peers based on average SFAT scores. Based on the NS-LOC, these subjects were more externally controlled than the normative sample of males at the same grade levels, which is consistent with previous results. Several significant negative relationships were found between locus of control and academic achievement. Results indicate that generalized locus of control can be a partial explaination of black males' school performance. Perhaps school achievement would be enhanced if a more internal locus of control could be induced. One table presents correlations between locus of control and academic achievement. (SLD)

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LOCUS OF CONTROL AND ACHIEVEMENT OF AT-RISK ADOLESCENT BLACK MALES

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Locus of Control and Academic Achievement of At-Risk Adolescent Black Males

Since the 1983 Nation At Risk report about our nation's schools, there has been increased concern about students in schools who have themselves been identified "at-risk." In a small southern town, a program was developed to address the needs of a special group of at-risk students, adolescent black males (Cobbs and McCallum, 1992). The students accepted into the program had been identified at-risk by their teachers, based upon several criteria including lack of motivation and poor academic record.

A motivational variable which has been linked to academic achievement is locus of control, the generalized expectancy for internal or external control of reinforcement (Stipek & Weisz, 1981). An individual is said to exhibit an internal locus of control if he/she perceives control of or responsibility for events occurring in one's life. An individual exhibits external locus of control if he/she believes other people or chance are responsible for life events (Payne & Payne, 1989).

In a review of 13 questionnaire measures of locus of control, Stipek and Weisz (1981) reported on 34 research articles which addressed the relationship between locus of control and academic achievement. Along with school grade averages, seven standardized measures of academic achievement were reported. Most studies reported a significant relationship between locus of control and academic achievement. From their review, Stipek and Weisz concluded there is some evidence to suggest locus of control questionnaires predicted grades stronger than standardized achievement test scores.

Nowicki and Strickland (1973) developed a questionnaire to measure locus of control in children, the Nowicki-Strickland Locus of Control scale for children (NS-LOC). Scores range from zero (internal) to 40 (external). The NS-LOC was designed to measure generalized expectancies for internal versus external control of reinforcement among children (Lefcourt, 1991; Nowicki & Strickland, 1973). In a recent review of measures of locus of control, Lefcourt (1991) reports the NS-LOC, ". . . appears to be one of the better measures of locus of control as a generalized expectancy presently available for children" (p. 444).

Several studies report the relationship between NS-LOC and academic achievement. Nowicki and Strickland (1973) found a significant negative relationship for seventh grade males ($r=-.335$, $N=35$). That is, there was a moderate relationship showing students more internally controlled had higher grades than students more externally controlled. Additional studies have found similar relationships with both grades and standardized achievement test scores (Duke & Nowicki, 1974; Nunn, Montgomery & Nunn, 1986; Stipek & Weisz, 1981).

Some studies reviewed by Stipek and Weisz (1981) reported non-significant relationships between locus of control and academic achievement. Others have suggested these non-significant relationships may be due to the general measures of academic achievement used, such as overall grade point average (Kagan, 1987; Marsh et al., 1984). Kagan (1987) suggested significant relationships between locus of

control and academic achievement are more likely in specific content areas, such as English, mathematics, science and social studies.

Initially Nowicki & Strickland, (1973) reported significant relationships between locus of control and academic achievement for black children. However, more recently, Holliday (1985) found no significant relationships between locus of control and grades nor between locus of control and standardized test scores for black children.

Few studies have addressed the relationship between locus of control and academic achievement for at-risk children. Before the 1983 Nation At Risk report, students generally were not classified with the "at-risk" designation. A number of the studies reported in the Stipek and Weisz (1981) review undoubtedly studied at-risk children, however, no procedures were used to designate at-risk samples. In studying at-risk students, Kagan (1987) found no significant difference in locus of control between at-risk and not at-risk high school students. Payne and Payne (1989) studied at risk elementary children who had been identified at-risk by their teachers. Using NS-LOC, they found at-risk students to be more externally oriented than not at-risk students. Since neither Kagan (1987) nor Payne and Payne (1989) used achievement measures, the relationships between locus of control and academic achievement for their at-risk samples are unknown.

Purpose of the Study

The purpose of this study was to examine the relationship between locus of control and academic achievement for adolescent males identified at-risk by their teachers. The Nowicki-Strickland Locus of Control scale for children (NS-LOC) was used as a measure of locus of control. Two separate measures of academic achievement were used. School grade average and the Stanford Achievement Test (SAT) battery composite provided two broad measures of overall academic achievement. Specific content areas were also assessed with both school grades and SAT scores.

Method

Middle school teachers were asked to identify at-risk students based on characteristics such as lack of motivation and poor academic performance. Based on teacher identification, 42 at-risk black males in grades 6, 7 and 8 were administered the NS-LOC by the school counselor. The NS-LOC is a reliable and stable instrument with internal consistency reliability $r=.68$ for grades 6, 7 and 8 (Nowicki & Strickland, 1973) and $r=.65$ for grade 6 (Halpin & Ottinger, 1983).

SAT scores for the same year were recorded from school records in reading, language, mathematics, science and social studies and battery composite for all students in grades 6, 7 and 8. To reflect a student's relative standing in his class, SAT scores for these at-risk students were converted to a common standard score distribution.

School records yielded grades in English, mathematics, science and social studies for the school year. These grades were averaged to produce a grade average.

Results

Nowicki-Strickland Locus of Control Scale for Children (NS-LOC)

This administration of the NS-LOC to 42 at-risk adolescent black males had an internal consistency reliability coefficient of r=.594, using coefficient alpha. This reliability estimate of generalized locus of control is comparable to the measures reported by Nowicki and Strickland (1973) and Halpin and Ottinger (1983).

The NS-LOC scores for the 42 at-risk black males in grades 6, 7, 8 ranged form seven to 25 with a mean of 16.45 and standard deviation of 4.40. This mean value is significantly higher ($t=3.102$, $p<.05$) than the mean value of 13.93 ($s=4.80$) for 185 males in grades 6, 7 and 8 reported by Nowicki and Strickland in the 1973 NS-LOC normative study. Thus, these at-risk adolescent black males were more externally oriented than adolescent males generally. No significant difference on locus of control ($t=1.160$, $p>.05$) was noted between the at-risk students in this study and the 263 at-risk elementary students in the Payne and Payne (1989) study, which had a mean of 17.12 and standard deviation of 3.29.

Academic Achievement

Stanford Achievement Test (SAT). Students' overall and content area SAT scores were converted to standard scores representing their relative standing in their classes. These converted scores were determined by obtaining the overall and content area SAT means and standard deviations for all middle school students in grades 6, 7 and 8. Next, the scores of the at-risk students were converted to score distributions having a mean of 500 and standard deviation of 100. The re-normed SAT scores for the at-risk black males had averages of: battery composite, 422 ($s=105$); reading, 421 ($s=108$); language, 433 ($s=100$); mathematics, 433 ($s=91$); science, 446 ($s=105$); and social studies, 426 ($s=102$). In summary, the average SAT scores for these at-risk black males generally fell .5 to .8 standard deviations below the mean of their middle school classes.

Grade Averages. End of school grades in English, mathematics, science and social studies for the at-risk black males averaged 1.85 ($s=.69$) on a four-point scale (4=A, 3=B, 2=C, 1=D, 0=F). Overall, these students had lower grades in science (GPA=1.58) than in social studies (GPA=2.03), English (GPA=2.02) and mathematics (GPA=1.90). Accumulating all of the subjects' grades across all four courses produced 3.1% A's, 21.4% B's, 39.0% C's, 30.8% D's, and 5.7% F's.

Relationship Between SAT Scores and School Grades. Unless indicated otherwise, all correlations reported in this study are significant at the .05 level of significance. The overall grade average correlated r=.679 with the SAT battery average. The correlations between grades and SAT scores in the four content areas were: English, r=.380; mathematics, r=.447; science, r=.646; social studies, r=.446.

Relationships Between Locus of Control and Academic Achievement

NS-LOC and SAT. The SAT overall measure of academic achievement, the battery composite, and all SAT content area scores (reading, language, mathematics, science and social studies) were significantly negatively correlated with the locus of control measure. As shown in Table 1, the NS-LOC measure of locus of control was significantly related to the SAT battery composite (r=-.461), to SAT Reading (r=-.399),

to SAT Language (r=-.375), to SAT mathematics (r=-.468), to SAT Science (r=-.337), and to SAT Social Studies (r=.-481). In general, students who were more internally controlled (with lower NS-LOC scores) had higher SAT scores; students who were externally controlled (with higher NS-LOC scores) had lower SAT scores.

NS-LOC and School Grades. The overall grade average was significantly negatively related to locus of control as were content area grades in English and science. As shown on the lower portion of Table 1, the NS-LOC measure of locus of control was significantly related to the average school grades (r=-.330), English grades (r=-.301), and science (r=-.410). In general, students who were more internally controlled (with lower NS-LOC scores) had higher overall grade averages and higher grades in English and science; students who were more externally controlled (with higher NS-LOC scores) had lower overall grade averages and lower grades in English and in science.

Discussion

This study was conducted on 42 black males in grades 6, 7, 8 who had been identified at-risk by their teachers. Of interest in this investigation was the relationship between the locus of control and academic achievement for at-risk black males .

In their academic achievement, these at-risk students scored .5 to .8 standard deviations below their school peers based on average SAT scores. Their overall grade average was 1.85 on the four-point scale (4=A).

The Nowicki-Strickland Locus of Control scale for children (NS-LOC) yielded a reliability estimate (r=.594) comparable to normative studies of the instrument. Based on NS-LOC, these at-risk black males were more externally controlled than the normative sample of 6, 7, 8 grade males (Nowicki & Strickland, 1973). The more externally controlled at-risk students in this study were consistent with the findings of the Payne & Payne (1989) study of at-risk elementary school students.

In this study several significant negative relationships were found between locus of control and academic achievement for at-risk black males. The results indicate generalized locus of control can be used to explain some of their school performance. Perhaps, at-risk students' achievement in school may be enhanced by altering their locus of control. As students believe they have more personal control of their environment, they may change their behavior resulting in improved academic performance.

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Table 1

Correlations of Locus of Control and Academic Achievement
for 42 At-risk Adolescent Black Males

Nowicki-Strickland Locus of Control (NS-LOC) and Stanford Achievement Test (SAT)

SAT	SAT Scores			SAT/ NS-LOC	t-
Test	Mean	s	N	Corr	Prob
Battery Composite	422	105	40	-.461*	.001
Reading	421	108	41	-.399*	.005
Language	433	100	41	-.375*	.008
Mathematics	433	91	40	-.468*	.001
Science	446	105	41	-.337*	.015
Social Studies	426	102	41	-.481*	.001

Nowicki-Strickland Locus of Control (NS-LOC) and School Grades

School	School Grades			Grades/ NS-LOC	t-
Grades	Mean	s	N	Corr	Prob
Overall Average	1.85	.69	39	-.330*	.020
English	2.02	1.08	41	-.301*	.028
Mathematics	1.90	.97	41	-.063	.347
Science	1.58	.87	40	-.410*	.004
Social Studies	2.03	.81	39	-.243	.068

* $p < .05$